

EFFECT OF TAEKWONDO AND KALARIPAYATTU PRACTICE ON SPEED AND EXPLOSIVE POWER AMONG COLLEGE MEN STUDENTS



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Short Profile

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ABSTRACT:

The purpose of the present study was to find out the effect of Taekwondo and Kalaripayattu practice on speed and explosive power among college men students. For achieving the purpose of the study total of 45 subjects were selected as samples from Arts and Science College in Chennai city. Their age group between 18 to 25 years and the selected subjects

were divided in to three groups equally with 15 each as experimental group-I with taekwondo Practice, experimental group-II with kalaripayattu practice and control group. The experimental group-I and experimental group-II were practiced in their respective training for a period of six weeks in a schedule of weekly three days for the duration of two hours each. The pre and posttest were conducted on selected physical fitness variables of speed and explosive power before and after the six weeks experimental training. Analysis of covariance (ANCOVA) was used as a statistical tool to determine the significant difference, if any exciting between pre and post test data on selected variable of speed and explosive power. If the adjusted post test result was significant, scheffe's post hoc test was used to determine the significance of the paired mean difference. The level of significance was fixed at 0.05 levels. The statistical findings of the study revealed that there was a significant difference in speed and explosive power among college men students due to taekwondo and kalaripayattu practice. Further

the mean value proved that the experimental group done the Taekwondo practice significantly improved the speed and experimental group done the kalaripayattu practice significantly improved explosive power than other groups.

KEYWORDS

Taekwondo, Kalaripayattu, speed and explosive power.

INTRODUCTION

Taekwondo and Kalaripayattu are the martial arts. It is practiced by different age groups as self-protection as well as fitness programme. Taekwon-Do or Tae Kwon Do is a Korean martial art with a heavy emphasis on kicks. Taekwondo was developed during the 1940s and 1950s by various Korean martial artists, as a combination of Shotokan karate and the indigenous traditions of taekkyeon, gwonbeop, and subak. This emphasis on speed and agility is a defining characteristic of taekwondo and has its origins in analyses undertaken by Choi Hong Hi. Kalaripayattu is an Indian martial art which originated in the west coast of the then Tamilakam, during the early 13th Century AD. It is considered to be one of the oldest fighting system in existence (Zarrilli, Phillip B., 1998). It is now practiced in Kerala, in contiguous parts of Tamil Nadu and among the Malayali community of Malaysia. It was originally practiced in northern and central parts of Kerala and the Tulunadu region of Karnataka.

Kalaripayattu includes strikes, kicks, grappling, preset forms, weaponry and healing methods. Regional (Green, Thomas A., ed., 2001). Variants are classified according to geographical position in Kerala; these are the Northern style from Malabar region in north Kerala, the Central style from inner Kerala and the southern style from Tamilakam and Travancore. The southern style is a Mixture of all the Tamil Martial Arts style like Varma Kalai/AdiMurai, Silambam (Kuravanji style) and Locks and Throws borrowed from Malyutham is classified as the southern kalaripayattu. Kalaripayattu techniques are a combination of steps (Chuvatu) and postures (Vadivu). Chuvatu literally means 'steps', the basic steps of the martial arts

Juliano Schwartz et al. (2015) evaluated health-related physical fitness in martial arts and combat sports practitioners. They found positive result on the physical fitness development. Christina Downs found out that the physical aspects of karate make it an effective way to exercise the whole body--muscles (strength), coordination (balance), and cardiovascular (aerobic).

The study of the Martial Arts offers several unique advantages to the physical fitness of the student. The training usually performed in almost any place without the use of weights or special equipment; it may be practiced individually or in groups. Athletes are facing with many challenges and it includes their physical, technical, tactical and psychological skills. Different type of training are undertaken by athletes to improve different type of physical fitness qualities. Each day players work hard to improve these skills by many means and methods. The present study is with the sole aim to find out the effect of taekwondo and kalaripayattu practice on the development of selected physical fitness qualities of college students.

METHODOLOGY

For achieving the purpose of the study total of 45 men college students were selected as

samples from Arts and Science College in Chennai city. Their age group between 18 to 25 years and the selected subjects were divided in to three groups equally with 15 each as experimental group I with Taekwondo practice and experimental group II with Kalaripayattu practice and Group III as Control Group.

EXPERIMENTAL TRAINING PROCEDURE

The experimental group I with taekwondo practice and experimental group II with Kalaripayattu practice and for a period of six weeks in a schedule of weekly three days for the duration of two hours each.

Testing procedure

The pre and posttest were conducted on selected physical fitness variables of speed and explosive power before and after the six weeks experimental training. The speed was assessed through 50m dash and explosive power was assessed through vertical jump.

Statistical Procedure

Analysis of covariance (ANCOVA) was used as a statistical tool to determine the significant difference, if and exciting between pre and post test data on speed and explosive power. If the adjusted post test result was significant, scheffe's post hoc test was used to determine the significance of the paired mean difference. The level of significance was fixed at 0.05 levels.

RESULTS AND DISCUSSIONS

The statistical analysis of data on speed and explosive power collected from 45 subjects of 15 subjects each as experimental group I with Taekwondo practice & experimental group II withkalaripayattu practice and control group have been presented in the Table I.

Table: I Analysis of Covariance for Pre, Post and Adjusted mean on Speed of different Groups

Test	Exp. Gr.I	Exp.Gr.II	Con.Gr	S.V	df	SS	MSS	F ratio
Pre	7.25	7.35	7.49	Between	2	0.44	0.22	1.45
				Within	42	13.36	0.32	
Post	6.87	6.97	7.41	Between	2	2.44	1.22	3.81*
				Within	42	13.59	0.32	
Adjusted	6.96	6.98	7.3	Between	2	1.04	0.52	5.2*
				Within	41	4.17	0.1	
Mean gain	0.38	0.38	0.08					

*Significant at 0.05 level of confidence (Table F ratio of 0.05 level of confidence for 2 and 42 df= 3.22 and

2 and 41(df) = 3.23

The above table shows the pre, post and adjusted mean and "F" ratio value on speed. The pre, post and adjusted mean values of experimental group I and II and control group were 1.45, 3.81 and 5.2 respectively. The obtained pretest F value of 1.45 was lesser than the required table value of 3.22 for significant with df 2 and 42. The post mean values of experimental and control groups was 3.81 with df 2 and 42 which was higher than the table value of 3.22. The adjusted posttest mean value was 5.2 which also was higher than the required "F" ratio value of 3.23 for significant at df of 2 and 41. The result of the posttest and adjusted mean F value showed that there was a significant improvement speed among college men students.

The obtained F ratio of speed was found significant at 0.05 level. Hence, scheffe's post hoc test was employed to find out the paired means difference between the groups on explosive power and presented in Table-II

Table: II Scheffe's Post Hoc Test for Mean Difference between Groups on Speed

Gr. I	Gr. II	Con. Gr.	Mean Difference	Confidence Interval
6.96	6.98		0.02	0.29
	6.98	7.3	0.32*	0.29
6.96		7.3	0.34*	0.29

*Significant at 0.05 level of confidence

The result of the post hoc test shown that there was no significant difference between the taekwondo and kalaripayattu group. A significant differences were observed in taekwondo and control group, and kalaripayattu training and control groups. Hence, it was concluded that the taekwondo and kalaripayattu training are best training to improve speed. Further the mean value indicated that the taekwondo group was better than kalaripayattu group in speed.

Table: III Analysis of Covariance for Pre, Post and Adjusted mean on Explosive Power of different Groups

Test	Gr. I	Gr. II	Con. Gr	S.V	df	SS	MSS	F ratio
Pre	42.47	43.47	42.53	Between	2	9.38	4.69	2.86
				Within	42	563.20	13.41	
Post	46.67	48.13	42.33	Between	2	272.84	136.42	5.08*
				Within	42	1128.40	26.87	
Adjusted	46.88	47.75	42.5	Between	2	236.14	118.07	5.18*
				Within	41	935.36	22.81	
Mean gain	-4.2	-4.66	0.2					

*Significant at 0.05 level of confidence (Table F ratio of 0.05 level of confidence for 2 and 42 df =

3.22 and 2 and 41(df) =3.23

The above table shows the pre, post and adjusted mean and "F" ratio value of explosive power. The pre, post and adjusted mean values of experimental group I and II and control group were 2.86, 5.08 and 5.18 respectively. The obtained pretest F value of 2.86 was lesser than the required table value of 3.22 for significant with df 2 and 42. The post mean values of experimental and control groups was 5.08 with df 2 and 42 which was higher than the table value of 3.22. The adjusted posttest mean value was 5.18 which also was higher than the required "F" ratio value of 3.23 for significant at df of 2 and 41. The result of the posttest and adjusted mean F value showed that there was a significant improvement speed among college men students.

The obtained F ratio of explosive power was found significant at 0.05 level. Hence, scheffe's post hoc test was employed to find out the paired means difference between the groups on explosive power and presented in Table- IV

Table: IV Scheffe's Post Hoc Test for Mean Difference between Groups on Explosive power

Gr. I	Gr.II	Con.Gr.	Mean Difference	Confidence Interval
46.88	47.75		0.87	4.43
	47.75	42.5	-5.25*	4.43
46.88		42.5	-4.38	4.43

*Significant at 0.05 level of confidence

The result of the post hoc test shown that there was no significant difference between the taekwondo and kalaripayattu group; and taekwondo and control group. A significant difference was observed in kalaripayattu training and control group. Hence, it was concluded that the kalaripayattu training is best training to improve explosive power. Further the mean value indicated that the kalaripayattu group was better than taekwondo group in explosive power.

CONCLUSIONS

From the analysis and discussions of the present study, the following conclusions were drawn

- ▲ The Taekwondo and Kalaripayattu training are useful to improve the physical fitness qualities of a speed and explosive power among college students.
- ▲ Further the mean value proved that the experimental group done the Taekwon-do practice significantly improved the speed and experimental group done the Kalaripayattu practice significantly improved explosive power than the other groups.
- ▲ The result of the study indicated that the martial art training can be included the college students curriculum to improve Physical fitness.

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